

I Claim:

1. A prosthesis to replace all or a portion of a natural facet joint on a vertebral body comprising a prosthesis body accommodating fixation to 5 the vertebral body at or near a pedicle and without support by a lamina, and  
an artificial facet joint structure carried by the prosthesis body adapted and configured to replace all or a portion of a natural facet joint.
- 10 2. A prosthesis according to claim 1  
wherein the prosthesis body includes a fastening element installed within the vertebral body at or near a pedicle.
- 15 3. A prosthesis according to claim 2  
wherein the fastening element includes a screw installed within the vertebral body at or near a pedicle.
4. A prosthesis according to claim 2  
wherein the fastening element includes a stem installed within the vertebral body at or near a pedicle.
- 20 5. A prosthesis according to claim 2  
wherein the fastening element including means for resisting rotation after installation in the vertebral body.
- 25 6. A prosthesis according to claim 1  
wherein the prosthesis body is fixed to the vertebral body by an adhesive or cement.
7. A prosthesis according to claim 1  
wherein the prosthesis body includes a bony in-growth material.
- 30 8. A prosthesis according to claim 1  
wherein the artificial facet joint structure is fixed to the prosthesis body.
9. A prosthesis according to claim 1  
wherein the artificial facet joint structure 35 is fixed to the prosthesis body by an adhesive or cement.

10. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
is fixed to the prosthesis body by mechanical attachment.

5 11. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
is removably carried by the prosthesis body.

10 12. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
is removably attached to the prosthesis body by  
frictional engagement.

15 13. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
is removably attached to the prosthesis body by a Morse  
taper.

15 14. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
comprises an insert fitted to the prosthesis body.

20 15. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
comprises an insert fitted by frictional engagement to  
the prosthesis body.

25 16. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
comprises an insert fitted by a Morse taper to the  
prosthesis body.

17. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
comprises a removable insert fitted to the prosthesis  
body.

30 18. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
pivots with respect to the prosthesis body.

35 19. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
is adapted and configured to articulate with a portion of

a facet joint of an adjoining vertebral body.

20. A prosthesis according to claim 1  
wherein the artificial facet joint structure  
is made of at least one selected prosthetic material.

5 21. A prosthesis according to claim 1  
wherein the selected prosthetic material  
includes polyethylene, rubber, tantalum, titanium, chrome  
cobalt, surgical steel, bony in-growth material, ceramic,  
artificial bone, or a combination thereof.

10 22. A method of replacing, on a vertebral  
body, all or a portion of a natural facet joint using the  
prosthesis defined in claim 1 to provide improved support  
for the spinal column, the method comprising the steps of

15 (i) removing all or a portion of a natural  
articular process from the vertebral body, and  
(ii) fixing the prosthesis as defined in claim  
1 to the vertebral body to replace the removed portion of  
the natural articular process with the artificial facet  
joint structure.

20 23. A method according to claim 22  
further including a step of removing at least  
some of the lamina from the vertebral body.

24. A method according to claim 22  
further including a step of removing at least  
25 part of a pedicle from the vertebral body.